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To: Gary Romig **Date:** August 27, 1992

From: Gordon Bokelman and Jack Stimler

Subject: Blend Composition Analysis of Experimental Marlboro Filler with Unexpectedly High Filling Power

Chemical analyses have been completed on an experimental sample of Marlboro filler from the Semiworks (received 6/8/92) that exhibited higher filling power than expected and on a control sample of production Marlboro filler (FTB). These data were processed by our present mathematical model for determining components in a tobacco blend. In this model, four chemical predictors (total ash; aspartic acid; β-methylvaleric acid, ratio of sample to standard; and cellulose index) were used as independent variables for the four dependent variables: bright lamina, burley lamina, Oriental leaf, and combined bright and burley stems. Stems, of course, may be present in a number of forms, including expanded stems and reconstituted tobaccos.

Due to lack of independence in the predictor set used for model derivation, precise confidence limits on individual components are not meaningful (see Acc. No. 84-038, p. 25). Also, please note that this method of predicting blend components may not give accurate results unless the actual tobacco components to be used are incorporated into the database, a condition which for practical purposes only can be met for products manufactured by Philip Morris. The database for the samples you submitted consisted of typical commercial tobacco components used by Philip Morris for domestic cigarette production in the second quarter of 1991.

Compared to the control, it was found that the experimental sample of Marlboro filler from the Semiworks had a 6% (absolute) higher content of Oriental leaf and correspondingly lower contents of bright lamina, burley lamina and stems. In light of information provided by Joyce Atkinson on the expansion potential of different types of tobacco, it is somewhat surprising that a filler sample with an abnormally high Oriental leaf content would also have high filling power.

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